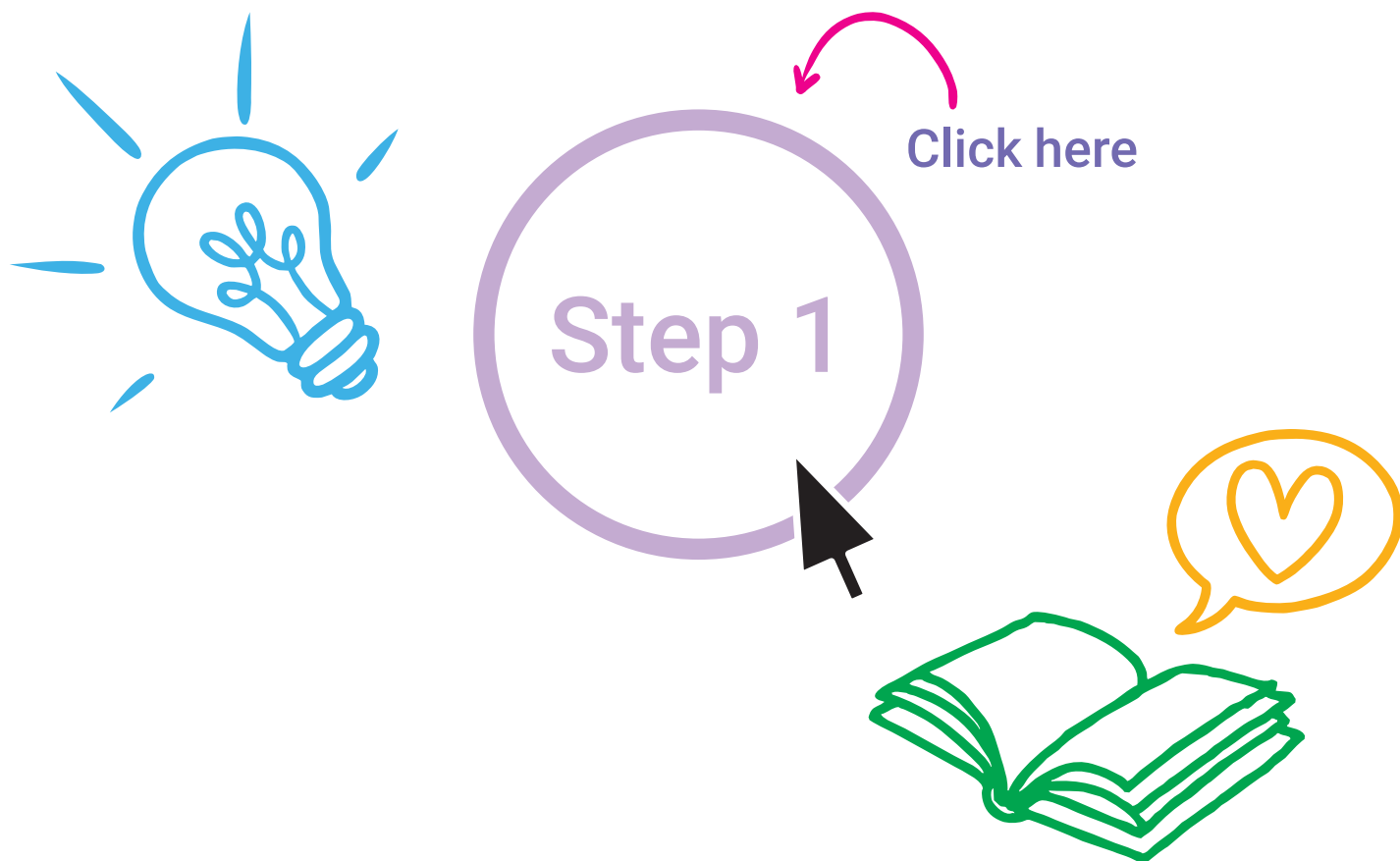



Year 5 Translation, Rotation and Reflection: A Step-by-Step Guide for Parents

This step-by-step explanation to translation, rotation and reflection can help you support your child's learning at home. The subject is broken down into manageable chunks, providing you with a simple guide to follow when exploring translation, rotation and reflection together, either as part of homework or if you decide to give your child some extra support. Whether your child is only just beginning to explore this area of maths, or they are gaining confidence and want to find out more, you will find a step that matches where your child is at then have ideas for where to go next.

Within **this area of the website**, you will find a selection of resources intended to help your child learn about each step of this guide. Each step also contains a keyword or phrase that you can use to search the Twinkl site for more resources and activities designed to support your child in achieving that stage. Simply type the keyword or phrase into the search bar and press enter to explore together.

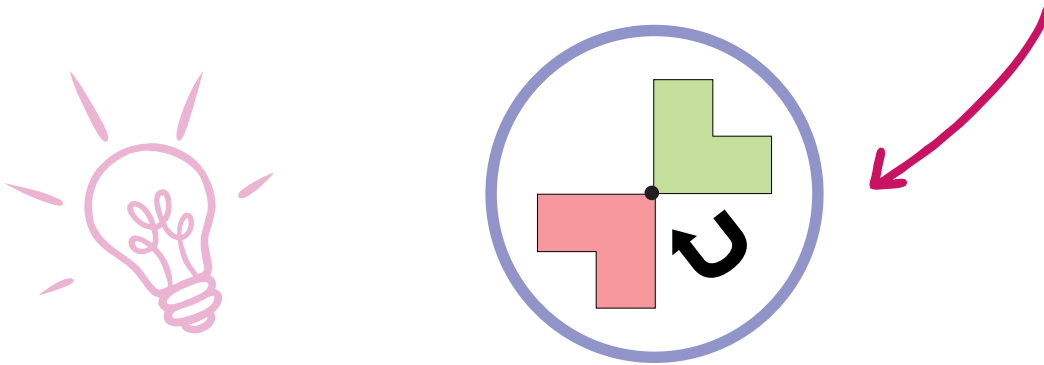
We hope you find the information on our website and resources useful. The contents of this resource are for general, informational purposes only. This guide is intended to offer parents general guidance on what subject areas tend to be covered in their child's year group and where they could support their children at home. However, please be aware that every child is different and information can quickly become out of date. There are some subject areas that we have intentionally not covered due to the nature of how they are taught or because a trained professional needs to teach these areas. We try to ensure that the information in our resources is correct but every school teaches the national curriculum in its own way. If you would like further guidance or are unsure in any way, we recommend that you speak to your child's teacher or another suitably qualified professional.

Translation, Rotation and Reflection

What Is Translation, Rotation and Reflection?

In key stage 2, your child will come across the terms translation, rotation and reflection when they are studying shape and direction in maths.

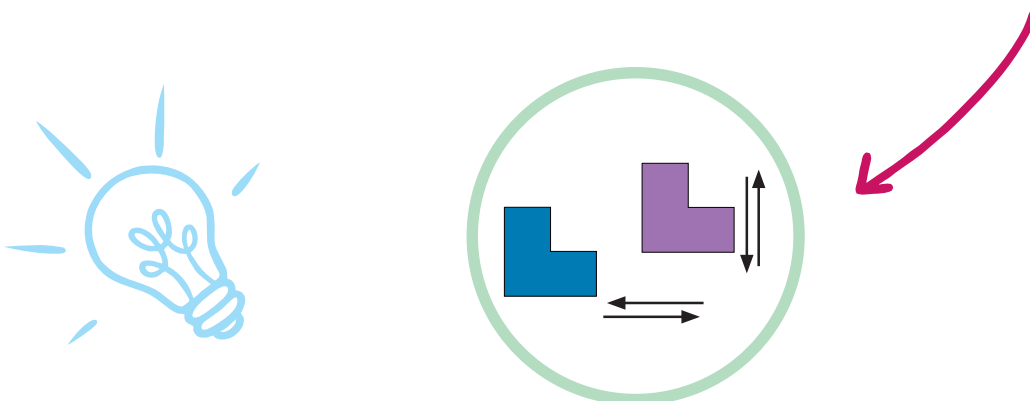
Rotation means turning an object a certain number of degrees around a fixed spot. The shape itself will remain exactly the same but will be in a different position. In order to do this, it helps if your child knows that a quarter turn is the same as a right angle (90 degrees), a half turn is the same as two right angles (180 degrees), a three-quarter turn is the same as three right angles (270 degrees) and a full turn is the same as four right angles (360 degrees). They will also need to be familiar with the terms clockwise (moving in the same direction as the hands on a clock) and anticlockwise (moving in the opposite direction to the hands on a clock).



Reflection means 'flipping' a shape over a mirror line so that each point on the reflected shape is exactly the same distance from the mirror line as the corresponding point on the original shape. The shape will remain the same size but the two shapes will be facing each other on either side of the mirror line as if one has been folded on top of the other.



Translation in maths simply means moving a shape. Every point of the original shape must move in the same direction and for the same distance. The shape will remain the same size.



Translation, Rotation and Reflection

In year 5, your child should be taught to identify, describe and represent a shape following a reflection or a translation. They may draw diagrams on a grid using coordinates to represent these.

As well as using the resources in **this category** and the keyword searches to find activities to help with translation, rotation and reflection, below are a few further ideas you could try at home to help your child make progress in this area of maths.

Flags

Investigate the national flags of different countries with your child. What shapes can you see in the flags and what are their properties? Can you see any lines of symmetry? Can you see any **perpendicular** or **parallel** lines? Can you see any reflections?

Lines of Symmetry Investigation

Carefully draw some regular shapes – such as a square, an equilateral triangle, a pentagon etc - on a piece of paper and cut them out. Investigate how many lines of symmetry each shape has by folding them so that they fit exactly on top of the other side. Do the shapes have more than one line of symmetry? Can you see a pattern?

Design a Poster

Challenge your child to design a poster suitable to show a younger child. The poster needs to contain illustrations and explanations about what translations, rotations and reflections are, clearly showing the differences between them and how each concept can change the position, but not the size, of a shape.

Translation Challenge

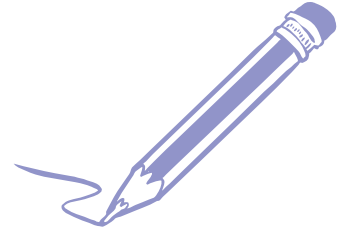
Using squared paper, draw an x and y axis then draw a rectangle anywhere on the grid. Can you describe where you want the rectangle to be translated to, for example, two squares right and three squares up. Challenge your child to carry out the translation then draw another shape so that they can challenge you.



Step 1

Coordinates

In year 5, children will recap on their knowledge of coordinates from year 4. They will practise writing coordinates as a paired set of numbers separated by a comma and surrounded by brackets, for example (6,4). They will investigate plotting coordinates on a graph with an x and y axis (known as the first quadrant), understanding that the first number represents the x coordinate and the second number represents the y coordinate. You can try our range of activity sheets to practise plotting coordinates with your child.



Reflections

Your child may be asked to reflect objects across a vertical 'mirror line'. They will do this using a grid with an x and y axis and coordinates. To carry out a reflection, you can encourage your child to use a mirror or to count how far away the object is from the mirror line so that they can work out where the reflected point should be. You can use our PowerPoints, packs and activity sheets to practise learning in this area at home.

Step 2

Step 3

Translations

Children will continue to develop their learning of translations, using coordinates to plot shapes on a grid and move or translate them. Encourage your child to focus on the corners of each shape to translate each one and to think about the fact that the shape does not change its size or orientation (the way it's facing) when it's translated (moved). Use our variety of activity sheets and challenge cards to help your child practise this key skill.



Explore and Discover More

Twinkl Go! is a digital platform, hosting interactive content such as videos, games, audiobooks and more. Twinkl Go! enables digital content to be streamed to your computer or mobile device.



twinkl
Go!



twinkl
Book Club

Twinkl Book Club is our book subscription service. Enjoy our original works of fiction in beautiful printed form, delivered to you each half-term and yours to keep!



twinkl
Boost

Twinkl Boost is a range of intervention resources, created to support and lift learning with children at every level. These include our easy-to-use SATs and Phonics Screening resources.



twinkl
imagine

Imagine resources are designed to help your children to think creatively, question and imagine. Every week, a new topic consisting of five photos, each with related activities, is created.

Twinkl Originals are engaging stories written to inspire children from EYFS to KS2. Designed to encourage a love of reading and help curriculum-wide learning through accompanying resources.



twinkl
ORIGINALS



twinkl
KIDS' TV

Twinkl Kids' TV is our wonderful YouTube channel dedicated to fun and informative video-style resources full of new and creative activities you can try at home!